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Newsletter for December 2024

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Key Quill is still with us

By Zennith | December 26, 2024

Art by MonstrousLupus and Dragonfeathers

In October, 2023, we posted a newsletter article about Key Quill, a.k.a. Charles Worth, who had passed away at far too young of an age due to cancer. He had completed his associates degree in general sciences and was starting a program in electrical engineering.

Key Quill is an anthropomorphic cat, with a gray coat of fur across most of his body, with accents of darker fur. He can sometimes be seen wearing a purple wizarding hat and other brightly colored articles of clothing. Key also has a pet cat named Phoenix, with a bright orange coat. Both Key and Phoenix were reunited with each other in 2023.

Key touched the lives of many: family, friends, his caretakers at the hospital, and many others. I have only been able to witness a fraction of this, hearing at the memorial service how people talked about the sort of differences Key made for them. Bringing positivity, enthusiasm, building connections with others, and no shortage of humor and wit. Being himself, and breaking down barriers so others can be themselves, too.

But he is not done.

While he was around, he remarked about how much our organization's work and mission meant to him. Through research, we are helping make it possible for people to physically realize and express their identity, including for folks who have a differing species identity. He deeply wanted that for himself, and sincerely wishes for options to be available to his friends and everyone else who needs it.

Key made a gift to our organization to help that future arrive faster.

At first, we knew the level of trust he placed in us, that he wanted to be remembered, and that he wanted for us to make him proud. We did not know the financial details until more recently. Throughout 2024, some steps proceeded in the background, and those details are now wrapped up.

Key has given our organization just over $210,000.

This amount has substantial impacts on how we can move forward with strategy. Our Board of Directors carefully discussed some options, and we decided to use the funds to start an endowment with a conservative investment strategy. Essentially, the interest, distributions, dividends, or gains from the endowment will be used each year as a boost to revenue, but the original funds will remain in place. Any unused revenues from the endowment will be reinvested back into it.

We considered some other possibilities, such as purchasing larger capital equipment. But, we are in a marathon, and we must prioritize steady, sustainable growth. We are not a startup company that thinks about "burn rates" and "runways".

Based in part on the increase in revenue this makes possible (along with other revenue sources), we are considering hiring a full-time employee next year. While this is not set in stone, the current leading candidate is Tiltwolf, since they would excel at the sort of wet-lab, computational, and literature research we want to prioritize.

Everyone on our team is currently a volunteer, giving away their time to help our mission succeed. But, most of our volunteers can only put in a few hours per week, since they have employment obligations elsewhere. Hiring someone full-time means not having to compete for that person's work any more. Employees can get expensive, especially for folks with the types of skills and experience we need. Thankfully, several of our folks are willing to work full-time at far-below-market rates as long as the earnings are livable. The math for this works. We are very excited about how this can speed up our research, and optimistic that more visible progress can help attract more financial support from those able to provide, building an even greater feedback loop in what we can accomplish.

Again, no final decisions have been made yet. We will provide an update as we get closer to any potential hire.

This is very emotional for me. Key believes in the same future we do - a future where you can really be your true self. He has the same degree of seriousness and commitment that many in our organization have. We know how much it will mean to a lot of people when they can finally physically become what they are inside.

Key has touched the lives of many, and he's going to touch many more. He's still breaking down barriers so others can be themselves.

Please join us in remembering Key Quill, and in thanking him for bringing our dreams closer to reality!

PS - If you haven't read the October 2023 article yet, please do read it! There's more to learn about Key and the impact he had on the lives around him.

Board of Directors update - incoming and outgoing

By hyper and Zennith | December 27, 2024

Many organizations, including nonprofits, have a Board of Directors. The Board of Directors is responsible for deciding on strategic goals, prioritizing different efforts or initiatives, and appointing some people to leadership positions. While details vary across different organizations, in our case, our Board of Directors elects its own members based on merit and compatibility with our mission.

The fundamental idea of a board is that better decisions can be reached than if any individual were acting alone. Each director serving on the board brings unique perspectives and experience to the group; frequently, a director has direct experience in a given topic, allowing discussions to be more informed and less speculative.

In our organization, directors serve for 2 years upon election, and directors can be re-elected upon the completion of their terms. We tend to hold elections in our 4th quarter board meeting each year, and did so again this year earlier in December.

Most of the directors who were up for re-election were elected again: Svaros, Moonbeam, Keiro, Lathreas, and Zennith made it through. As well, Zennith was reappointed as President for another 2-year term.

However, some important changes occurred with this election cycle.

First, hyper the bunny is joining the Board of Directors, and furthermore, has been appointed to the position of Secretary!

The above has been written by Zennith. I think hyper wants to say something, so I'm going to give her the keyboard for a second…

Howdy y'all, I'm Maeve, or "hyper the bunny" as I go by online. It's been a while since I introduced myself, so I'll do a quick little update. As you could probably guess by my pseudonym, I'm a bunny, though I think it's also worth mentioning that I'm machinekin since we're often underrepresented and historically stigmatized in some otherkin spaces. I'm currently studying for a mechanical engineering bachelors in Seattle Washington, and after that I hope to begin postgraduate studies on prosthetics engineering.

I started volunteering with the Freedom of Form Foundation two years ago, back in the summer of 2022 as a moderator. It wasn't long before I was managing events, mentoring new volunteers, and improving our process for letting people into our community server. Only a year later I was promoted to Community Director, and was able to make even bigger improvements like merging our community and outreach efforts into a single unified department. Now, I've been elected to serve on our Board of Directors as the Secretary along with my previous responsibilities. I've always tried to be a voice for our community, and I'm proud that now I can represent y'all all the way to the top of management to make sure we're sailing in the right direction.

I'm so unbelievably thankful and excited for this position. Two and a half years doesn't sound very long, but it feels like a lifetime with how much I've learned and grown in that time. And just as I have grown, our organization and the community around it have as well. I'm so lucky to get the chance to help cultivate our community, full of friendly, hopeful people, and with supportive, driven staff who won't stop until we've succeeded. We're in this together, to create a world where we can exist as our true selves. My term begins January 1st, 2025, and I promise I won't let you all down.

(Editor's note: hyper has given the keyboard back to Zennith)

hyper the bunny, our new Secretary! Art by Lev.

However, we also have some less upbeat news to report. The second notable change this election was the stepping down of our previous Secretary, Syralth.

He will remain in our organization as a volunteer and advisor, but demands and pressures in his personal life have made it unrealistic for him to remain on the board. He's been with us since the beginning, February 2018, and his advice, help with decision-making, and scientific expertise have been beyond instrumental in our success so far. He helped us draft our very first whitepapers on anthro anatomy and technical methods for transformations. He has also helped us implement more rigorous administrative processes in volunteer onboarding, starting to outline intellectual property policies, setting up our research project expenditure methods, and consistently posting board minutes. He has a lot of accomplishments to look back at and be proud of, and he will be missed from the Board of Directors. Thank you Syralth for all you've done for us.

Syralth! Art by qatsoup

Our organization is steadily progressing and advancing. We're doing well, but we still have a lot more to do. Not just in research: we still have many things we need to implement or improve in terms of the spaces we manage for our community, our efforts in public outreach, our internal coordination of volunteers, and our administration. We have a lot to accomplish, but we have the determination to see it through. Cheers to all we can do in 2025!

Volunteer Spotlight: Bleddyn!

By SvarOS | December 19, 2024

Bleddyn is a Doctor of Electrical Engineering with extended specialties in Canada, with multiple peer-reviewed journal articles and international presentations. He has years of experience in product development, automation, and environmental sciences. As the leader of the tail team, Bleddyn applies his love of new technology to push the boundaries of organic-machine interfaces, which move the ideas of morphological freedom forward.

SvarOS: Suppose to start. Who are you, when did you join the foundation, and what attracted you to it?

Bleddyn: I'm Bleddyn, and I joined the FFF community in May 2019 after receiving an invite on Twitter. The before-times...

SvarOS: What got you into the field of electrical engineering?

Bleddyn: Growing up, I was really into computers (and science fiction, notably Star Trek) and many video games with various sci-fi settings. Technology plays a big role in those kinds of settings, so one's imagination runs wild, dreaming up possibilities for problems that we (humans and otherwise) could solve for ourselves if we only knew how.

I defaulted to engineering because it seemed consistent with those daydreams; within that, I specialized in electronics. It involved a lot of math, which I thought was elegant, but also learning about atoms and electrons and getting to the heart of how our universe works (or at least a glimpse). That seemed like the most promising way to get involved in making some cool technology.

SvarOS: You have a doctorate in electrical engineering and some specialties in other fields. Is that more applied or theoretical? Being so high up the degree ladder, what is the most challenging aspect of your field?

Bleddyn: My doctoral work was very much applied in nature. I like being able to design and build things that are directly useful for solving problems. Research and science, in general, have been challenging in different ways than I expected. It's about asking questions, synthesizing large bodies of work by others, rethinking your questions, trying something, rethinking your questions again, and then designing rigorous tests. It's about trying to ensure you're not fooling yourself and not taking too much time to figure that out. The most challenging aspect I found was gaining some level of comfort with the unstructured nature of this process.

SvarOS: You mentioned it requires a lot of math and understanding concepts many people may struggle to comprehend. Looking into this world, what is the most fascinating aspect of electrical engineering?

Bleddyn: You can undoubtedly get into math-heavy fields, and I did a lot of that for my coursework, but math is not always necessary to solve problems in novel ways. It took me a long time to come to terms with that. As for what I find most fascinating about electrical engineering, I like to compare it to programming. I enjoy programming because it allows you to figure out a way to solve a problem and then tell a machine to do it for you forever so that you can go and do something else. Electronics is essentially programming with physics—by arranging atoms, molecules, or devices in specific ways and then sometimes coupling those to other machines, you can create a system that takes in energy and puts out the solution to your problem. It's like bringing a ball to the top of a hill and letting it roll down, just with a few more steps!

> *"Electronics is essentially programming with physics [...] you can create a system that takes in energy and puts out the solution to your problem."*

SvarOS: We mentioned in your biography that you are the team lead for the Tail Project. What does this involve?

Bleddyn: Being team lead for the Tail Project means I host our regular meetings and try to help ensure that everyone is working towards the same goal, which is to develop a prosthetic tail that feels natural to wear and use. We want to use electromyographic (EMG) signals from the wearer's muscles to control the motion of the prosthetic, which will ultimately be driven by electric motors (for now). Whereas most cosplay tails on the market have a pre-programmed set of moves they can perform, such as wagging, we want to create something you can move volitionally as if it were just another of your limbs. It turns out this is much more complicated than it sounds! As one can imagine, the biggest challenge with everyone being volunteers is making time to work on the project. My fellow team members and I have busy lives and jobs or classes that take time and energy. Our regular meetings keep us moving and motivated.

SvarOS: Could you describe that custom hardware in more detail? Is there anything other than cost that makes it special?

Bleddyn: We've spent the past couple of years designing and refining a measurement platform that we can use to reliably measure EMG signals from the muscles that we want to target for control of the tail. This has been very challenging, not only electronically because we are dealing with tiny electrical signals coming from the body, but also on the software side because we have to acquire lots of signal data per unit time in a repeatable way. Commercial solutions to these problems exist, but the good ones cost many thousands of dollars. We're trying to replicate some of that functionality with our custom hardware and software.

SvarOS: You mentioned this idea of an interface from nerve impulses to a prosthesis. Are there other intersections you've noticed or seen in electrical engineering and biology?

Bleddyn: It's important to note here that we're not actually measuring nerve impulses! We're measuring the electrical activity that results from muscle motion (which is itself triggered by nerves). Biomedical engineering is a field of its own at the intersection of electrical engineering, biology, and other fields. It's not my specialty, but it is an important intersection because the cells in our bodies operate on electric charges at the molecular level. When enough of those charges are exchanged in a short time, we can measure the resulting electrical signals from outside the body.

The nice thing about designing something from scratch is that you can make choices consistent with your goals for the system. We want to be able to measure muscles primarily in the lower back. At the same time, the user will be in motion, so we've had to consider sources of interference from motion, wearability and adaptability of the circuit boards to the body, and even mechanical problems caused by the lengths of the wires that go between the electrodes and our acquisition system. On the software side, this approach guarantees access to the low-level signal data that we'll use primarily for visualization at first but later for algorithms or models that control the tail.

SvarOS: What do you like to do in your spare time? Any interesting video games?

Bleddyn: I have a lot of interests that compete for my attention. Music has always been big for me---I like playing instruments and I'm trying to write more. I enjoy walking around outside, particularly in forests. I also enjoy playing tabletop RPGs and video games with friends. My friends are a great source of joy in my life. Lately I've been playing VRChat and Hunt: Showdown the most. Both are a great time, but with very different stress levels!